

Louisiana Grant Project 1

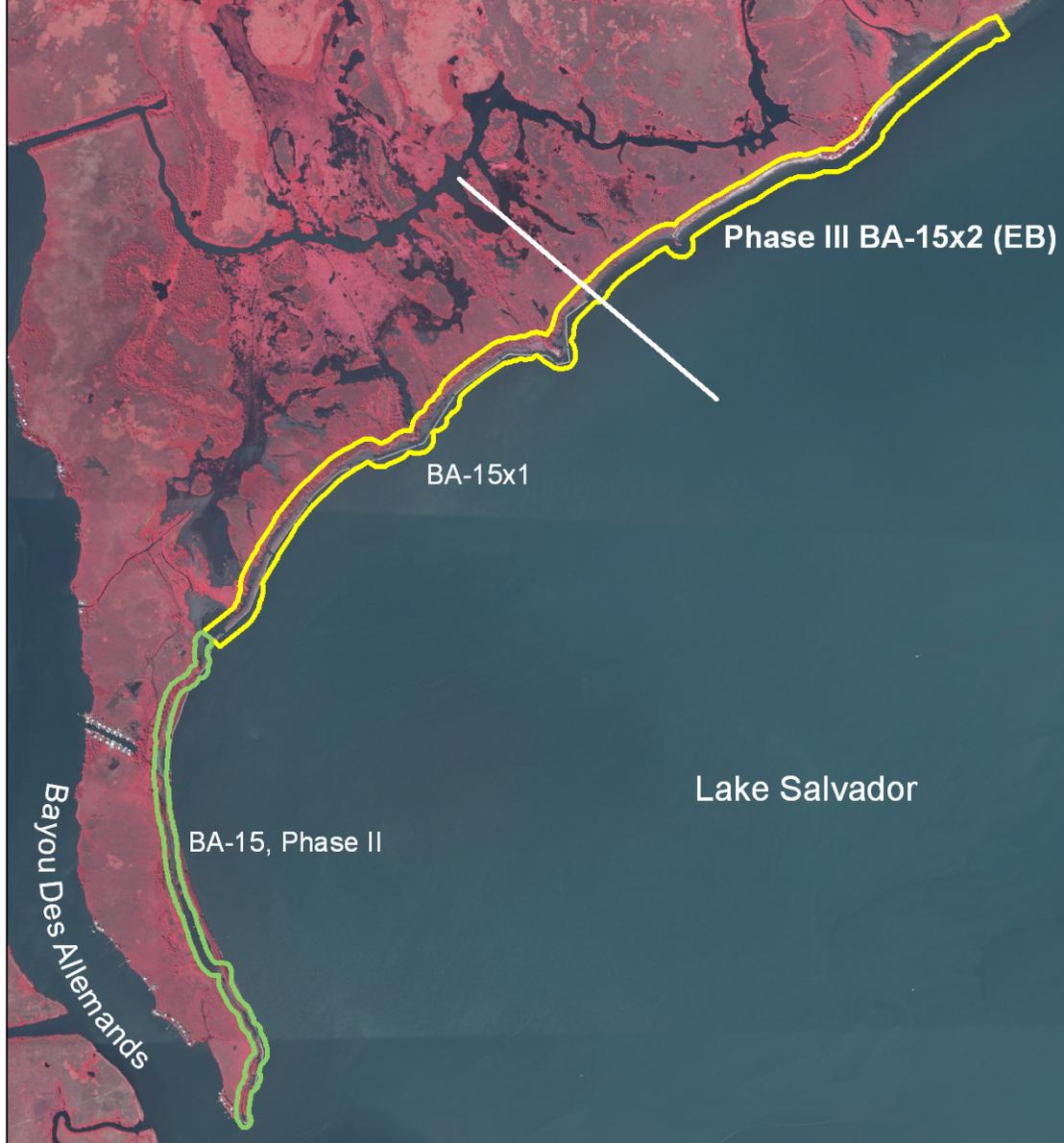
Lake Salvador Shoreline Protection

Gregory M. Grandy
Louisiana Department of
Coastal Protection and Restoration

7 January 2009

Lake Salvador Shoreline Protection Project Goals:

- 1. Construct 7,300 feet of rock shoreline protection.**
- 2. Reduce shoreline erosion rate of 13 ft annually by 50%.**



Lake Salvador Shoreline Protection, Phase III (BA-15x2 (EB))



Project Vicinity



2005 DOQQ Imagery

Lake Salvador Shoreline Protection Projects Timeline

- CWPPRA constructed Phase I

June 1998

- State constructed Phase II with original CIAP & mitigation funding

early 2005

- MMS approval of Louisiana CIAP Plan including Lake Salvador Phase III Shoreline Protection Project

29 November 2007

Lake Salvador Project Budget Timeline

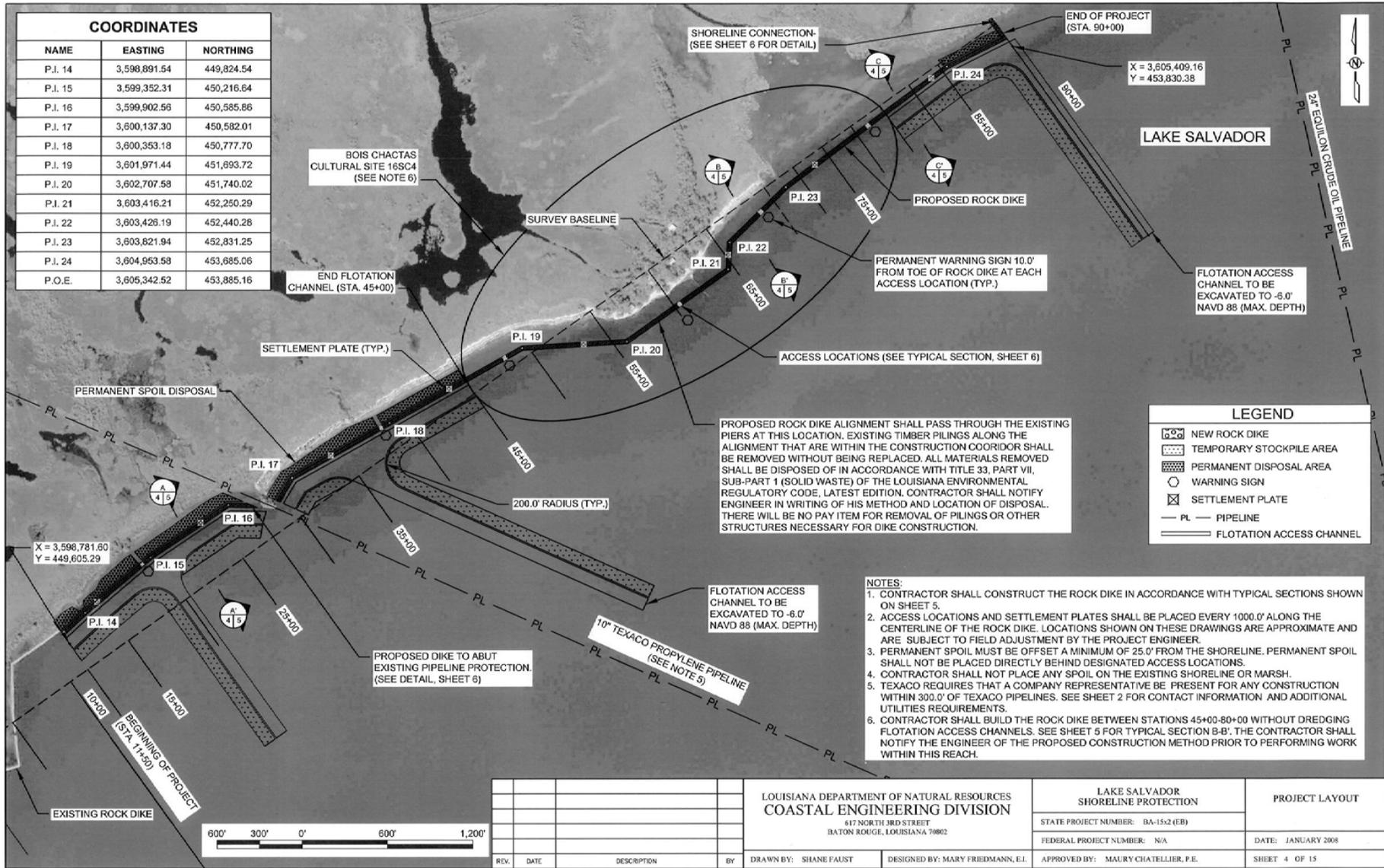
- Louisiana submits CIAP grant for application
December 2007
- State of Louisiana and St. Charles Parish execute interagency agreement
17 December 2008
- Louisiana CIAP grant executed
9 April 2008
- St. Charles Parish submits grant application
31 March 2008
- Louisiana OCPR agrees to advance \$2.3 million prior to parish grant being executed
9 April 2008

Lake Salvador Project Construction Timeline

- Lake Salvador Project pre-bid meeting
24 June 2008
- Lake Salvador project bid opening
17 July 2007
- Construction Kick-Off meeting
22 October 2008
- Construction Contractor on-site
3 November 2008
- Anticipated Construction Completion
January 2009

COORDINATES

NAME	EASTING	NORTHING
P.I. 14	3,598,891.54	449,824.54
P.I. 15	3,599,352.31	450,216.64
P.I. 16	3,599,902.56	450,585.86
P.I. 17	3,600,137.30	450,582.01
P.I. 18	3,600,353.18	450,777.70
P.I. 19	3,601,971.44	451,693.72
P.I. 20	3,602,707.58	451,740.02
P.I. 21	3,603,416.21	452,250.29
P.I. 22	3,603,426.19	452,440.28
P.I. 23	3,603,821.94	452,831.25
P.I. 24	3,604,953.58	453,685.06
P.O.E.	3,605,342.52	453,885.16



LEGEND	
	NEW ROCK DIKE
	TEMPORARY STOCKPILE AREA
	PERMANENT SPOIL DISPOSAL AREA
	WARNING SIGN
	SETTLEMENT PLATE
	PIPELINE
	FLOTATION ACCESS CHANNEL

PROPOSED ROCK DIKE ALIGNMENT SHALL PASS THROUGH THE EXISTING PIERS AT THIS LOCATION. EXISTING TIMBER PILINGS ALONG THE ALIGNMENT THAT ARE WITHIN THE CONSTRUCTION CORRIDOR SHALL BE REMOVED WITHOUT BEING REPLACED. ALL MATERIALS REMOVED SHALL BE DISPOSED OF IN ACCORDANCE WITH TITLE 33, PART VII, SUB-PART 1 (SOLID WASTE) OF THE LOUISIANA ENVIRONMENTAL REGULATORY CODE, LATEST EDITION. CONTRACTOR SHALL NOTIFY ENGINEER IN WRITING OF HIS METHOD AND LOCATION OF DISPOSAL. THERE WILL BE NO PAY ITEM FOR REMOVAL OF PILINGS OR OTHER STRUCTURES NECESSARY FOR DIKE CONSTRUCTION.

- NOTES:**
1. CONTRACTOR SHALL CONSTRUCT THE ROCK DIKE IN ACCORDANCE WITH TYPICAL SECTIONS SHOWN ON SHEET 5.
 2. ACCESS LOCATIONS AND SETTLEMENT PLATES SHALL BE PLACED EVERY 1000.0' ALONG THE CENTERLINE OF THE ROCK DIKE. LOCATIONS SHOWN ON THESE DRAWINGS ARE APPROXIMATE AND ARE SUBJECT TO FIELD ADJUSTMENT BY THE PROJECT ENGINEER.
 3. PERMANENT SPOIL MUST BE OFFSET A MINIMUM OF 25.0' FROM THE SHORELINE. PERMANENT SPOIL SHALL NOT BE PLACED DIRECTLY BEHIND DESIGNATED ACCESS LOCATIONS.
 4. CONTRACTOR SHALL NOT PLACE ANY SPOIL ON THE EXISTING SHORELINE OR MARSH.
 5. TEXACO REQUIRES THAT A COMPANY REPRESENTATIVE BE PRESENT FOR ANY CONSTRUCTION WITHIN 300.0' OF TEXACO PIPELINES. SEE SHEET 2 FOR CONTACT INFORMATION AND ADDITIONAL UTILITIES REQUIREMENTS.
 6. CONTRACTOR SHALL BUILD THE ROCK DIKE BETWEEN STATIONS 45+00-80+00 WITHOUT DREDGING FLOTATION ACCESS CHANNELS. SEE SHEET 5 FOR TYPICAL SECTION B-B'. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF THE PROPOSED CONSTRUCTION METHOD PRIOR TO PERFORMING WORK WITHIN THIS REACH.

LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION

617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

LAKE SALVADOR SHORELINE PROTECTION

STATE PROJECT NUMBER: BA-15/2 (EB)

FEDERAL PROJECT NUMBER: N/A

APPROVED BY: MAURY CHATELIER, P.E.

PROJECT LAYOUT

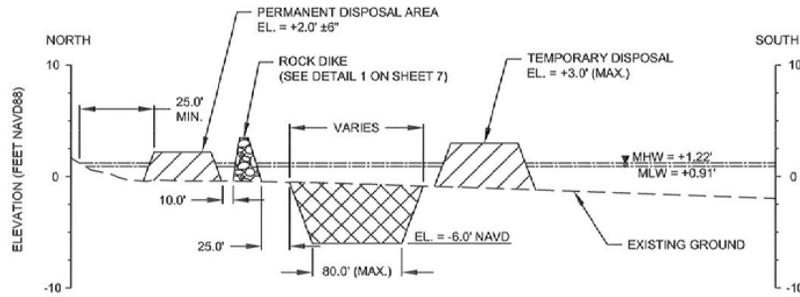
DATE: JANUARY 2008

SHEET 4 OF 15

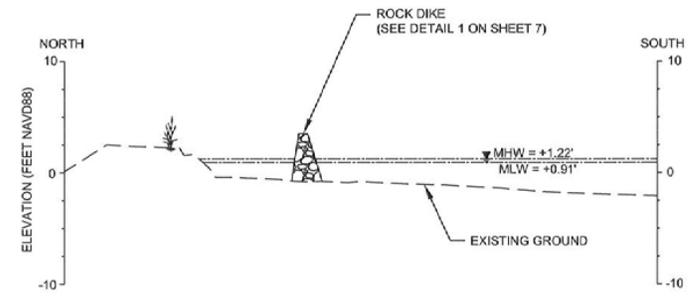
REV.	DATE	DESCRIPTION	BY

DRAWN BY: SHANE FAUST

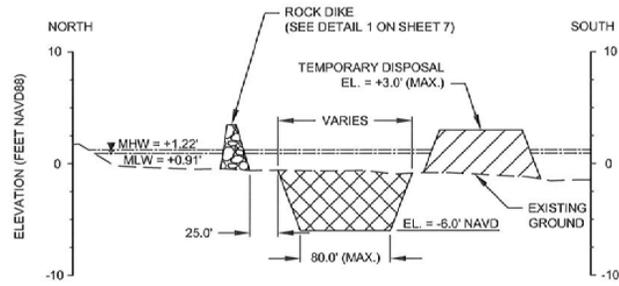
DESIGNED BY: MARY FRIEDMANN, E.I.



SECTION A-A'
LOOKING NORTHEAST



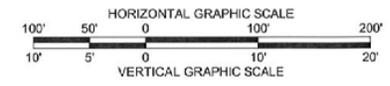
SECTION B-B'
LOOKING NORTHEAST



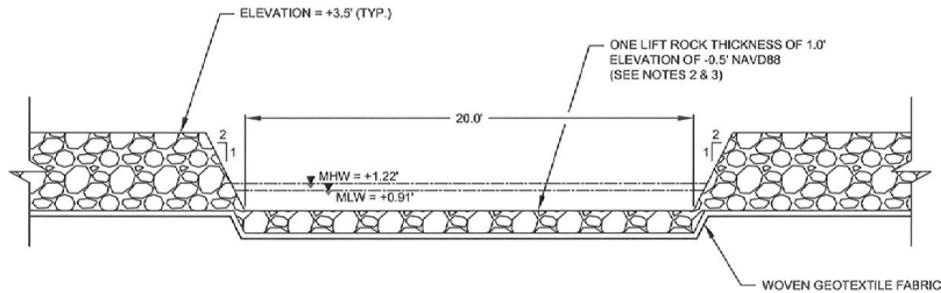
SECTION C-C'
LOOKING NORTHEAST

NOTES:

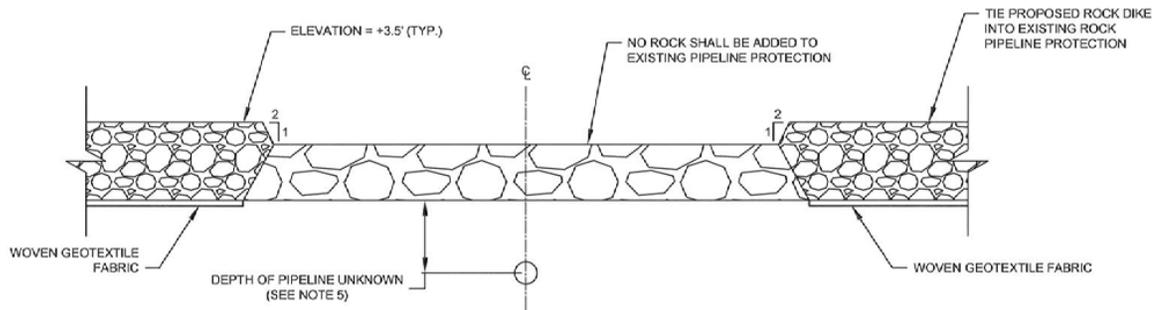
- DISTANCES MAY VARY DUE TO CHANGING FIELD CONDITIONS. LAYOUT WILL BE FIELD ADJUSTED BY THE LDNR PROJECT ENGINEER AS NECESSARY.
- FLOTATION CHANNELS SHALL BE DREDGED AND MAINTAINED TO THE DEPTHS REQUIRED TO MEET THE NEEDS OF THE CONTRACTOR'S PLANT AND EQUIPMENT. ALL DIMENSIONS MUST CONFORM TO THE MAXIMUM LIMITS AS SHOWN IN THESE PLANS.
- EXCAVATED MATERIAL SHALL BE DEPOSITED IN AREAS SHOWN ON THE PLANS, OR AS DIRECTED BY THE LDNR PROJECT ENGINEER. THE PERMANENT DISPOSAL AREA SHALL BE BUILT TO AN ELEVATION OF 2.0' NAVD 88 WITH AN ALLOWABLE TOLERANCE OF ±6". THE REMAINDER OF THE MATERIAL SHALL BE PLACED IN THE TEMPORARY STOCKPILE AREA. PRIOR TO DEMOBILIZATION, THE CONTRACTOR WILL BE REQUIRED TO REWORK THE TEMPORARY STOCKPILE AREA TO ±3" OF THE ORIGINAL BOTTOM DEPTH BY BACK FILLING THE MATERIAL INTO THE FLOTATION ACCESS CHANNEL.



				LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802		LAKE SALVADOR SHORELINE PROTECTION		TYPICAL SECTIONS	
						STATE PROJECT NUMBER: BA-15x2 (EB)			
						FEDERAL PROJECT NUMBER: N/A		DATE: JANUARY 2008	
				DRAWN BY: SHANE FAUST		DESIGNED BY: MARY FRIEDMANN, E.I.		APPROVED BY: MAURY CHATELLIER, P.E.	
REV. DATE DESCRIPTION BY								SHEET 5 OF 15	



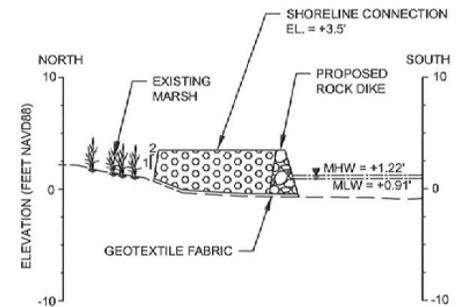
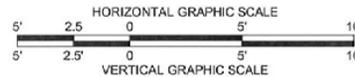
ACCESS LOCATION DETAIL
TYPICAL



PIPELINE PROTECTION TIE-IN DETAIL
TYPICAL

NOTES:

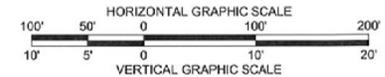
1. ROCK FOR ACCESS LOCATIONS SHALL BE PLACED IN ONE LIFT TO A TOP ELEVATION OF -0.5' NAVD 88. EXCAVATION MAY BE REQUIRED BEFORE PLACING GEOTEXTILE AND ROCK. NO EXCAVATION SHALL BE ALLOWED IN THE CULTURAL SITE AREAS (SEE NOTE 2).
2. A CULTURAL SITE AREA IS LOCATED BETWEEN STATIONS 45+00 AND 80+00. ACCESS LOCATIONS IN THIS AREA MAY BE BUILT BY PLACING ONE LIFT OF ROCK AND TAPPING DOWN ON THE ROCK TO ACHIEVE THE ELEVATION OF -0.5' NAVD88. NO EXCAVATION WILL BE ALLOWED BETWEEN STATIONS 45+00 AND 80+00.
3. CONTRACTOR SHALL PROVIDE FINAL AS BUILT ELEVATIONS OF THE TOP OF EACH ACCESS LOCATION TO THE LDNR ENGINEER UPON COMPLETION OF THE PROJECT.
4. PIPELINE LOCATION AND DEPTH WILL BE DETERMINED AND MARKED BY TEXACO PIPELINES, LLC. PRIOR TO CONSTRUCTION (SEE NOTE 4, SHEET 2).



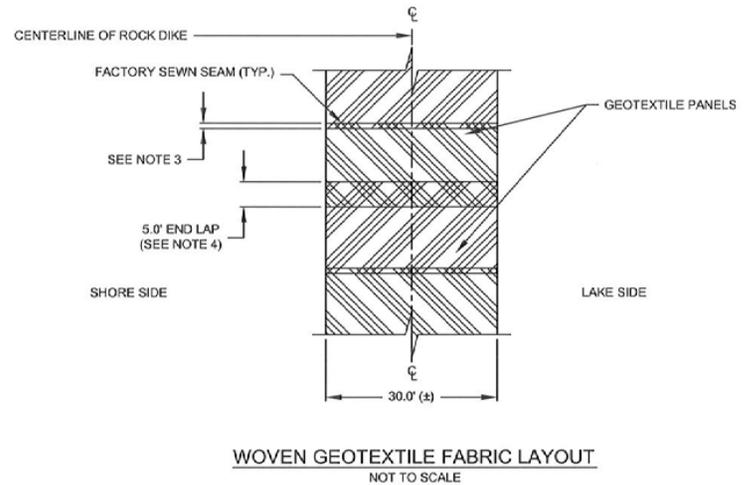
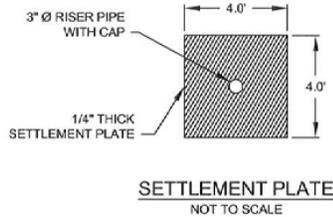
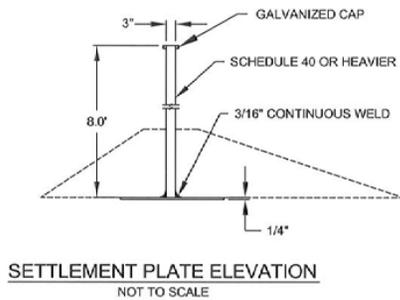
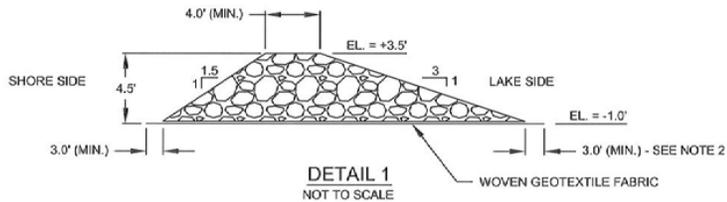
SHORELINE CONNECTION DETAIL
TYPICAL

NOTE:

SHORELINE CONNECTION SHALL BE CONSTRUCTED TO THE DIMENSIONS OF THE ROCK DIKE. CONNECTION SHALL ABUT THE ROCK DIKE AND EXTEND LANDWARD TO THE LIMITS OF EXISTING VEGETATION. CONSTRUCTION MATERIAL SHALL BE 250 LB. CLASS STONE AS USED IN DIKE CONSTRUCTION.



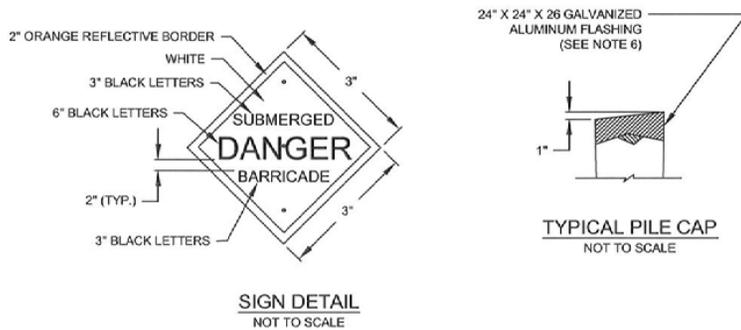
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						STATE PROJECT NUMBER: BA-15-2 (EB)			
						FEDERAL PROJECT NUMBER: N/A		DATE: JANUARY 2008	
				DRAWN BY: SHANE FAUST		DESIGNED BY: MARY FRIEDMANN, E.I.		APPROVED BY: MAURY CHATELLIER, P.E.	
REV.	DATE	DESCRIPTION	BY					SHEET 6 OF 15	



NOTES:

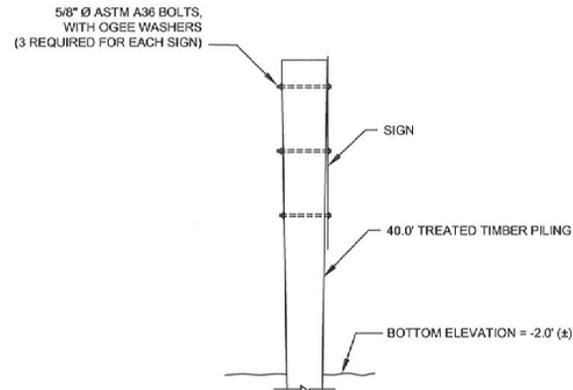
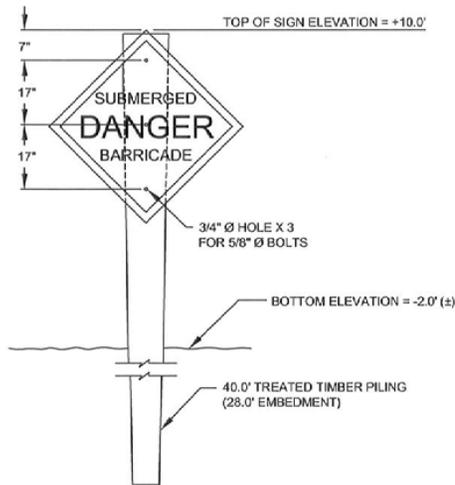
1. THE CONSTRUCTION OF THE ROCK BREAKWATER CONSISTS OF A WOVEN GEOTEXTILE FABRIC UNDER APPROXIMATELY 4.5' OF ARMOR STONE (SEE DETAIL 1). GEOTEXTILE SHALL CONFORM TO AND BE PLACED IN ACCORDANCE WITH TS-5 AS SHOWN ON THE CONSTRUCTION DRAWINGS.
2. THE WOVEN GEOTEXTILE FABRIC SHALL OVERLAP THE ROCK BREAKWATER EDGE BY A MINIMUM OF 3.0' ON EACH SIDE.
3. ALL SEAMS SHALL BE SEWN PERPENDICULAR TO THE ROCK BREAKWATER CENTERLINE.
4. THE MINIMUM OVERLAP AT THE ROLL/GEOTEXTILE PANEL ENDS, PERPENDICULAR TO ROCK BREAKWATER CENTERLINE, SHALL BE 5.0' UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
5. ARMOR STONE SHALL MEET LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT CLASS 250 POUND STONE, OR OWNER APPROVED EQUIVALENT. GRADATION TESTS OF REPRESENTATIVE STONE (15 TON MIN. SAMPLE SIZE) SHALL BE MADE AT THE QUARRY. CERTIFIED TEST RESULTS MUST BE SUBMITTED AND APPROVED PRIOR TO PLACEMENT ON THE PROJECT. THE STONE PLACEMENT METHOD SHALL PRODUCE A REASONABLY WELL GRADED ROCK MASS WITH VOIDS MINIMIZED AND A VERTICAL TOLERANCE OF $\pm 6"$. STONE SHALL BE PLACED TO FULL THICKNESS IN ONE LIFT WITH A MAXIMUM DROP OF 1.0' TO AVOID DAMAGING THE WOVEN GEOTEXTILE FABRIC. FOLLOWING A PERIOD OF FOURTEEN (14) DAYS FOR SETTLEMENT, A SECOND OPERATION SHALL BE MADE TO RESTORE THE ROCK BREAKWATER TO THE REQUIRED SHAPE AND GRADE AS DIRECTED BY ENGINEER AS PER TS-6.
6. THE BREAKWATER SHALL BE CONSTRUCTED WITH THE CENTERLINE PLACED AT THE -1.0' CONTOUR (SEE SHEETS 9-15). ACTUAL ALIGNMENT MAY BE ADJUSTED BY THE LDNR PROJECT ENGINEER TO MEET CHANGED FIELD CONDITIONS. IF ADDITIONAL QUANTITIES FOR ARMOR STONE AND WOVEN GEOTEXTILE FABRIC ARE NECESSARY, THEY WILL BE PAID FOR AT THE UNIT PRICE BID FOR THE ITEM. CHANGES TO THE BID QUANTITIES WILL BE APPROVED BY THE LDNR PROJECT ENGINEER PRIOR TO PLACEMENT.
7. SETTLEMENT PLATES SHALL BE INSTALLED ALONG THE CENTERLINE OF THE STRUCTURE AT 1000.0' INTERVALS AS SHOWN ON SHEET 4 OR AS DIRECTED BY THE LDNR PROJECT ENGINEER. SETTLEMENT PLATES SHALL BE BUILT USING ASTM A36 STEEL AND HOT-DIPPED GALVANIZED AFTER FABRICATION PER TS-7.

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						STATE PROJECT NUMBER: BA-15s2 (EB)			
						FEDERAL PROJECT NUMBER: N/A		DATE: JANUARY 2008	
				DRAWN BY: SHANE FAUST		DESIGNED BY: MARY FRIEDMANN, E.L.		APPROVED BY: MAURY CHATELLIER, P.E.	
REV.	DATE	DESCRIPTION	BY					SHEET 7 OF 15	



PERMANENT SIGN NOTES:

1. REFERENCES HEREIN TO THE "STANDARD SPECIFICATIONS" REFER TO THE "LA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES", AS PUBLISHED BY THE LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT, LATEST EDITION.
2. THE 2" BORDER ON THE WARNING SIGN WILL BE A RETROREFLECTIVE MATERIAL OF ORANGE COLOR. THE LETTERING FIELD WILL BE A RETROREFLECTIVE MATERIAL OF WHITE COLOR. THE LETTERING FOR THE WARNING SIGNS WILL BE BLACK. ALL SIGNS MUST MEET U.S. COAST GUARD STANDARDS; IN ACCORDANCE WITH 33 CFR 330.4 (a) (1).
3. NEOPRENE WASHERS SHALL BE PLACED BETWEEN THE SIGN AND THE PILING AT ALL POINTS OF CONTACT.
4. HARDWARE FOR TIMBER CONNECTIONS SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH SECTION 811.5 OF THE LOUISIANA STANDARD SPECIFICATIONS.
5. TIMBER PILES SHALL CONFORM TO SECTIONS 804 AND 1014 OF THE LOUISIANA STANDARD SPECIFICATIONS. PILES SHALL BE TREATED WITH A CREOSOTE SOLUTION CONFORMING TO AWPA P2 TO A MINIMUM RETENTION OF 20 PCF.
6. THE TOP OF THE PILES SHALL BE COATED WITH COAL TAR EPOXY PAINT PRIOR TO PLACING CAP. THE PILE CAP SHALL BE ATTACHED USING ALUMINUM OR STAINLESS STEEL NAILS.
7. TIMBER PILING SHALL BE 40.0' IN LENGTH WITH A 12" DIAMETER BUTT AND 7" DIAMETER AT THE TIP.
8. SIGNS SHALL BE PLACED AT THE LOCATIONS SHOWN ON SHEET 4 OR AS DIRECTED BY THE PROJECT ENGINEER.
9. EXPOSED BOLT THREADS SHALL BE EITHER TACK WELDED TO NUTS, STRIPPED, OR DAMAGED BY OTHER APPROVED METHOD TO PREVENT EASY REMOVAL.
10. SIGNS SHALL BE PLACED 10.0' OFF THE TOE OF THE ROCK DIKE.



				LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802		LAKE SALVADOR SHORELINE PROTECTION		WARNING SIGN DETAILS	
				DRAWN BY: SHANE FAUST		STATE PROJECT NUMBER: BA-15G (EB)		DATE: JANUARY 2008	
				DESIGNED BY: MARY FRIEDMANN, E.I.		FEDERAL PROJECT NUMBER: N/A			
				APPROVED BY: MAURY CHATELLIER, P.E.				SHEET 8 OF 15	
REV.	DATE	DESCRIPTION	BY						

Lake Salvador Shoreline Protection Phase III (BA-15x-2-EB)



11/26/2008



11/26/2008



11/26/2008



11/26/2008





Lake Salvador Shoreline Protection Phase III Project Milestone Timeline

- **Plans and Specifications**

Updated December 2007 from work completed as part of Phase II project)

- **Landrights Agreements**

Completed as part of Phase II project

- **Cultural Resources Investigation & Subsequent Agreements**

Completed as part of Phase II project

- **Permits**

Completed as part of Phase II project

